

SPREAD-SPECTRUM RECEIVERS WITH EXTENDED DYNAMIC RANGE

ABSTRACT OF THE DISCLOSURE

5 A received analog spread-spectrum signal is selectively attenuated prior to digitization, where the amount of attenuation is based on the amplitude of the digitized signal before the digitized signal is filtered to compensate for interference that may exist in the received signal. By selectively attenuating the signal only when the digitized signal is relatively large, the receiver can be implemented using a relatively small analog-to-digital converter (ADC) than would otherwise be the case for a particular signal processing application. Taking advantage of the signal-concentration characteristics of spread-
10 spectrum receivers, embodiments of the present invention can be designed to operate with signal having negative signal-to-noise ratios at the A/D conversion step.